AF/3739

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TRANSMITTAL FORM

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Total Number Of Pages In This Submission	48

Application Number	09/095,323
Filing Date	June 10, 1998
First Named Inventor	Michael D. LAUFER
Group Art Unit	3739
Examiner Name	D. Shay
Attorney Docket No.	435712000900

ENCLOSURES (check all that apply)

- [X] Fee Transmittal Form + duplicate for fee processing - 2 pages
  - [ ] Fee Attached
- [ ] Amendment / Reply
  - [ ] After Final
  - [ ] Affidavits/declarations
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Assignment Papers *(for an Application)*
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s)_____
- [ ] After Allowance Communication to Group
- [ ] Appeal Communication to Board of Appeals and Interferences
- [X] Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief) - 45 pages*
- [ ] Proprietary Information
- [ ] Status Letter
- [X] Other Enclosure(s) *(please identify below):*
  1. Return Receipt Postcard

Remarks

SIGNATURE OF APPLICANT, ATTORNEY OR AGENT

Firm or Individual Name	Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, California 94304-1018 Richard R. Batt, Reg. No. 43,485
Signature	
Date	December 11, 2001

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Aurelia Caparas

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TOTAL AMOUNT OF PAYMENT ($)160.00

Complete If Known	
Application Number	09/095,323
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First Named Inventor	Michael D. LAUFER
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METHOD OF PAYMENT

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number: 03-1952

Deposit Account Name: Morrison & Foerster LLP

☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

☒ Applicant claims small entity status. See 37 CFR 1.27

2. ☐ **Payment Enclosed:**

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FEE CALCULATION

1. BASIC FILING FEE

Large Fee Code	Entity Fee ($)	Small Fee Code	Entity Fee ($)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES

			Extra Claims		Fee from below		Fee Paid
Total Claims	41	-51** =	0	x	9	=	$ 0
Independent Claims	8	-8** =	0	x	42	=	$ 0
Multiple Dependent					140	=	$ 0

Large Fee Code	Entity Fee ($)	Small Fee Code	Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claims, if not paid
109	84	209	42	**Reissue Independent claims over original patent
110	18	210	9	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($)0

** or number previously paid, if greater; For reissues, see above.

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Fee Code	Entity Fee ($)	Small Fee Code	Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for *ex parte* reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	160
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions of the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per properties (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 160.00

SUBMITTED BY

Complete *(if applicable)*

Name (Print/Type)	Richard R. Batt	Registration No. (Attorney/Agent)	43,485	Telephone	(650) 813-5616
Signature				Date	December 11, 2001

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pa-650109

PATENT
Docket No. 435712000900
Client Ref. 009

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Aurelia Caparas

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

#21
1/30

In the application of:

Michael D. LAUFER

Serial No.: 09/095,323

Filing Date: June 10, 1998

For: METHOD AND APPARATUS FOR TREATING SMOOTH MUSCLES IN THE WALLS OF BODY CONDUITS

Examiner: D. Shay

Group Art Unit: 3739

BRIEF ON APPEAL

Box AF
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is an Appeal from the final rejection of claims 28-37 and 50 in the above-referenced application. In accordance with 37 C.F.R. § 1.192, this Brief, along with the Appendix, is filed in triplicate and is accompanied by the required fee.

A copy of claims 28-37 and 50 are provided in the attached Appendix.

I. Real Party in Interest

Broncus Technologies, Inc., the assignee of record, is the real party of interest.

II. Related Appeals and Interferences

There are no related appeals or interferences.

III. Status of Claims

Claims 1-27 and 48 and 49 have been withdrawn from consideration as a result of a restriction requirement. Claims 38-47 and 51 have been cancelled by an amendment filed after final rejection discussed below. Claims 28-37 and claim 50 stand finally rejected and are the subject of this Appeal.

IV. Status of Amendments

Subsequent to final rejection, an amendment canceling claims 38-47 and 51 was filed on September 19, 2001. In an advisory action dated October 1, 2001, the Examiner indicated the proposed amendment would be entered upon filing an appeal. Consequently, claims 28-37 and claim 50 stand finally rejected and are the subject of this Appeal.

V. Summary of Inventions

The subject invention is a method for treating the walls of an airway of a lung with light energy which, over time, causes debulking of the lung tissue and prevents the lung tissue from replicating. (3:14-20; 5:17-18; 6:15-23).

The subject invention may be performed by introducing an energy delivery apparatus into the airways of a patient's lungs. (3:14-16). Light energy is emitted from the distal end of the apparatus in an intensity which, when applied to the walls of the airway causes a change in

smooth muscle tissue which prevents the smooth muscle tissue from replicating. (3:15-23; 6:18-20). In one embodiment, a light fiber extending through the elongated body delivers light from a light source to the distal end of the elongated body. (3:21-24). A light directing member may be provided at the distal end of the elongated body to direct light from the fiber in a substantially radial pattern from the distal end of the elongated body. (3:25-27). See also FIGS. 1-2.

The light source may be any known source such as a UV laser source. (7:13-14). The light is preferably ultraviolet light having a wavelength in the range of about 240-280 nm or visible light in the red visible range. (7:14-16).

The subject invention can thus provide a treatment for lung disease such as asthma by delivering light energy to airway walls. (5:17-18). This is an improvement over various prior art references which disclose methods for treating other body conduits (e.g., blood vessels). Unlike blood vessels and other body conduits, the airways can contain excessive secretions of mucus by mucus glands lining the airways. (2:10-11).

VI. Issues

The following issues are presented in this Appeal:

A. Whether claims 29, 30, 34 and 35 are indefinite under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

B. Whether claims 28-37 and claim 50 are unpatentable under 35 U.S.C. §103 over Clarke (U.S. Patent No. 5,053,033).

VII. Grouping of Claims

For each ground of rejection, the claims may be grouped together.

VIII. Argument

A. Claims 29, 30, 34 and 35 are not indefinite under 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Final Office Action provides that claims 29, 30, 34 and 35 are rejected under 35 U.S.C. § 112, second paragraph, (hereafter, all statutes referred to in this Brief are to 35 U.S.C.) as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Final Office Action states "it is unclear how any steps recited therein manipulatively affect the method."[1] The Final Office Action further provides:

> [I]t is well understood that "To be entitled to weight ... structural limitations must effect the method in a manipulative sense, and not amount to the mere claiming of use of a particular structure. Ex Parte Pfeiffer, 782. O.G. 639 1962 CD 408." Applicant has demonstrated no manipulative difference in the attaching of the applicator to a red ligth [sic] source, rather than a 245-280 in [sic] light source, thus the rejection has been maintained.[2]

This rejection is improper for two reasons. First, the Final Office Action does not provide a proper basis for rejecting the claims under § 112, second paragraph. Second, the claims are not indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

1. The Final Office Action does not set forth a proper basis for rejecting claims 29, 30, 34 and 35 under §112, second paragraph.

The Examiner's position that claims 29, 30, 34 and 35 are violative of § 112, second paragraph, because "it is unclear how any steps recited therein manipulatively affect the method" is ill-founded.[3] The Examiner cites *Ex Parte Pfeiffer* to support the § 112, second paragraph,

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[1] Page 2, Final Office Action.

[2] See Page 3, Final Office Action.

[3] *Id.*

rejection.[4] However, a complete reading of *Pfeiffer* reveals that *Pfeiffer* is irrelevant to a rejection under § 112, second paragraph. Indeed, the decision in *Pfeiffer* is directed to an art-based rejection and states:

> As to the rejection of the claims on the prior art references, we do not agree with the appellant that such structural limitations as are not disclosed by the references should be given patentable weight. This argument is applicable to claims drawn to structure and not claims drawn to a method. To be entitled to such weight in method claims, the recited structural limitations therein must affect the method in a manipulative sense and not to amount to the mere claiming of a use of a particular structure, which, in our opinion, is the case here. (emphasis added).

Id. *Pfeiffer*, therefore, addresses whether the claims are patentable over the prior art references and does not support a rejection under § 112, second paragraph, as set forth in the Final Office Action. *Pfeiffer* also indicates that "the patent statute [] impliedly permits recitations of structure in method claims. Manifestly, the mere inclusion of structure in a method claim does not of itself render the claim unstatutory or fatally defective."[5] The Examiner's rejection of claims 29, 30, 34 and 35 under § 112, paragraph 2, is therefore improper.

The subject claims 29, 30, 34 and 35 also do not amount to claiming the mere "use" of a particular structure. A review of mere "use" cases indicate that claiming the mere use of a structure is something quite distinct from the claimed invention as set forth in claims 29, 30, 34 and 35. For example, in *Ex Parte Erlich,* the Board affirmed the Examiner's decision that claiming "a process for using monoclonal antibodies of Claim 4 to isolate and purify human fibroblast interferon" is violative of § 112, second paragraph.[6] Each of the dependent method claims in *Erlich* specifically recited the "use" of a structural element (i.e., the monoclonal antibodies) without providing any positive active steps as to how to use the structure.

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[4] *Ex Parte Pfeiffer*, 782 O.G. p. 639, 641 (1962).

[5] *Id.*

[6] *Ex Parte Erlich*, 3 U.S.P.Q.2D (BNA) 1011(1986).

The subject claims are markedly different than the claims at issue in *Erlich*. First, the subject claims do not recite the "use of" or "using" a particular structure. Second, the subject claims do specify a positive active process step. The subject claims require emitting light in a particular way (claims 29 and 34 recite that the irradiating step is performed by emitting a light energy having a wavelength of about 240 nm to 280 nm; claims 30 and 35 recite that the irradiating step is performed by emitting a light energy having a wavelength in the red visible range). Thus, the subject dependent claims specify how the irradiating step is performed or carried out. Instead of emitting light in all ranges as various light sources may do, light is emitted in a pre-selected defined range. Consequently, Applicants dependent claims provide a clear active step which manipulates the preceding steps by controlling the wavelength range.

Applicants also note that the Final Office Action provides that "Applicant has demonstrated no manipulative difference in the attaching of the applicator to a red [light] source, rather than a 245-280 nm light source." This statement does not support the rejection of claims 29, 30, 34 and 35 under § 112, second paragraph. As shown in the attached claims, claims 30 and 35 are directed to the red light source and do not depend from the claims 29 and 34 directed to the 245-280 light source or vice versa. Rather, the claims directed to the red light source depend from the broader claims and the claims directed to the 245-280 nm also depend from the broader claims. Accordingly, each of claims 29, 30, 34 and 35 adds a meaningful claim limitation. Based on the foregoing, Applicants submit the § 112, second paragraph, rejection of claims 29, 30, 34 and 35 is improper.

2. The subject claims are not indefinite under § 112, second paragraph, because one of ordinary skill in the art would understand the scope of claims 29, 30, 34 and 35 when viewed in light of the specification.

"[I]t is well-established that the determination whether a claim is invalid as indefinite depends on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the specification."[7]

The claims of this Appeal do comply with the indefiniteness requirement because each claim is understood by one of ordinary skill in the art when viewed in light of the specification. In particular, claims 29 and 34 require that the irradiating step is performed by emitting a light energy having a wavelength of about 240 nm to about 280 nm. Claims 30 and 35 recite that the irradiating step is performed by emitting light energy having a wavelength in the red visible range. Accordingly, each of claims 29, 30, 34 and 35 require light to be emitted in a particular way. Specifically, the light must be emitted in a specified range which is defined two different ways (wavelength and red visible).

The specification and drawings support these claims. For example, page 5, lines 17-21, and FIG. 1 specify that an energy delivery device 10 is used to deliver light energy to the walls 12 of a body conduit. The specification further provides at page 7, lines 12-19, that the energy used may be coherent or incoherent in the range of infrared, visible, or ultraviolet. The light source can be, for example, a UV laser source and preferably has a wavelength in the range of about 240-280 nm or in the red visible range. Additionally, originally filed claims 1-4 specify an apparatus for emitting light energy in the above mentioned wavelength ranges.

The above referenced sections in the application in combination with the explicit claim language recited in claims 29, 30, 34 and 35 provide sufficient context for one of skill in the art

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[7] *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1378 (Fed. Cir. 1999) citing *North Am. Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1579, 28 U.S.P.Q.2D (BNA) 1333, 1339 (Fed. Cir. 1993).

to understand the scope of the claimed invention. Indeed, one of ordinary skill in art would understand the scope of claims when viewed in light of the specification. Consequently, the rejections of claims 29, 30, 34 and 35 under § 112, second paragraph, are improper and should be overturned.

Based on the foregoing, Applicant submits (1) the Examiner's basis for rejecting claims 29, 30, 34 and 35 under § 112, second paragraph, is flawed and (2) that one of skill in the art would understand the scope of the claims when viewed in light of the specification. Accordingly, the rejections of claims 29, 30, 34 and 35 (the rejections of claims 39, 40, 44, and 45 being moot) under § 112, second paragraph, should be overturned.

B. Claims 28-37 and 50 are not unpatentable under 35 U.S.C. §103(a) over Clarke (U.S. Patent No. 5,053,033).

According to the Final Office Action:

> Clarke teaches a method of killing smooth muscles cells (see column 2 lines 16-50) using ultraviolet radiation in the 240-280 nanometer range (see paragraph bridging column 2 and 3 for example). It would have been obvious to the artisan of ordinary skill to employ the method in bronchial tissue, esophigal [sic] tissue, or urethral tissue since these are equivalents and are all composed of smooth muscle cells that respond to the same irradiative methods as blood vessels, official notice of which has already been taken . . . and to employ the method in an asmatic [sic] lung, since there is no indication that the smooth muscle cells therein would respond differently than in non asmatic [sic] lung thus producing a method such as claimed.

1. A prima facie case of obviousness has not been established.

According to the Manual of Patent Examining Procedure (MPEP) § 2142, "[t]he Examiner bears the initial burden of factually supporting a prima facie case of obviousness." A prima facie case of obviousness requires, amongst other requirements, that (1) there must be some suggestion or motivation to modify the reference or to combine the teachings and (2) that

there must be a reasonable expectation of success.[8] In the instant case, neither of these requirements are met.

For instance, there is no motivation set forth within the four corners of Clarke (the primary and sole reference) to irradiate lung tissue as the subject claims require. Clarke is silent as to treating the walls of an airway. Clarke also does not provide that airway tissue is the same as vasculature tissue. Clarke does not state such tissue will respond the same or that their environments are the same. Clarke thus does not provide motivation to treat lung tissue as the claims on Appeal require.

We acknowledge that the Examiner may take "official notice" of certain well known prior art or common knowledge. Indeed the MPEP provides that "[t]he examiner may take official notice of facts outside of the record which are capable of instant and unquestionable demonstration as being 'well-known' in the art."[9] "If justified, the Examiner should not be obliged to spend time to produce documentary proof. If the knowledge is of such notorious character that official notice can be taken, it is sufficient so to state."[10] However, "[i]f the applicant traverses such an assertion the examiner should cite a reference in support of his or her position."[11] In the subject case, the motivation to treat the airway tissue as the Examiner proposes is not well known much less notorious or unquestionable. The Examiner's assertion to employ the Clarke method in bronchial tissue, airway smooth muscle tissue, and in an asthmatic lung is thus ill-founded.

As indicated above, a prima facie case of obviousness also requires a reasonable expectation of success. Regarding Clarke, the primary and sole reference, it does not provide any indication that light should be applied to the airway walls. Clarke, as the Office Action

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[8] MPEP at § 2143. See also *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

[9] MPEP § 2144.03 citing *In re Ahlert,* 424 F.2d 1088, 1091 (CCPA 1970).

[10] MPEP § 2144.03 citing *In re Malcolm*, 129 F.2d 529 (CCPA 1942).

[11] *Id.*

points out, teaches inhibiting restenosis of vascular smooth muscle cells following angioplasty. The figures in Clarke show treating the plaque and vascular smooth muscle cells and not lung airway wall tissue. While each of the vasculature and the airways contain smooth muscle cells to some degree, there is no indication in Clarke that vasculature smooth muscle cells are identical to airway smooth muscle cells.

In fact, there are patent differences between lung airways and blood vessels. The airway wall has an epithelial lining, mucous glands and mucous ducts. None of these features are present in blood vessels. The airways also connect with different surrounding tissues than the blood vessel smooth muscle: certain airways are connected with cartilage and vasculature. The airways may absorb energy differently than the blood vessels.

Additionally, air and mucous are contained in the airways whereas blood is contained in the vasculature. The blood vessels also develop plaque, fat and other deposits which are distinct from the airway abnormalities found in reversible chronic obstructive pulmonary disease such as asthma. The above distinctions between the blood vessels and airways may provide different optical properties including variations in light absorption, scattering and transmission which can result in different biological effects.

In view of the above discussed differences between blood vessels and the airways, the differences between the substances contained therein, and the phenomena that each tissue may respond differently to light irradiation, there is not a reasonable likelihood that the method taught in Clarke would be successful if attempted in an airway. Accordingly, a prima facie case of obviousness has not been made.

2. The Examiner improperly applies hindsight reasoning to render the invention obvious to one of ordinary skill in the art at the time of invention.

As indicated above, Clarke (the one and only prior art reference being applied in the rejection of the claims on this Appeal) does not discuss each and every element of the claimed

method. Specifically Clarke does not teach irradiating airway walls of a lung much less treating asthma or mucus gland cells as recited in claims 28 and 33 respectively.

The Examiner improperly presumes the level of knowledge of one of ordinary skill in the art at the time of the invention would supply the missing suggestion to modify Clarke's teachings. That is, the Examiner improperly presumes one would take the angioplasty device disclosed in Clarke and insert it into a lung airway and irradiate the airway walls to treat lung disease. The Examiner's presumption is not supported in law or fact. According to case law, "[r]arely, [] will the skill in the art component operate to supply missing knowledge or prior art to reach an obviousness judgement. [citation omitted]. Skill in the art does not act as a bridge over gaps in substantive presentation of an obviousness case, but instead supplies the primary guarantee of objectivity in the process."[12] The Examiner has also failed to provide sufficient facts as to why one of skill in the art would be motivated to treat the lungs as the subject claims require. Due to the differences between airway walls and other body conduits, as discussed above, one of skill in the art would be discouraged from inserting the Clarke device in an airway to irradiate the airway walls.

In rejecting the claims involved in this Appeal, the Examiner has "bridged the gaps" between the prior art reference and the claimed invention using impermissible hindsight reconstruction violating the objectivity of an obviousness test. "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher."[13] In the instant case, the Examiner has surely violated this principle because the subject matter of the claims on Appeal is not well known much less of instant and unquestionable demonstration as

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[12] *Al-Site, Inc v. VSI, Int'l, Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d 1161 (Fed. Cir. 1999).

[13] *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983).

being well-known in the art.[14] Nor does the one and only reference being applied in this rejection (i.e., Clarke) suggest the step of irradiating the walls of an airway with a wavelength and intensity which, over time, causes debulking of lung tissue (or mucus gland cells) and prevents the tissue from replicating as the subject claims require.[15]

Additional evidence of nonobviousness is the absence of a solution to the long-standing problem of lung disease such as asthma. Despite this long-standing problem and the long felt need for a solution, prior art methods have failed to provide a solution as claimed by Appellant. If Appellant's claimed method was obvious (which Appellant disputes), numerous prior art references would likely describe it. In contrast, no prior art methods in the record show or suggest the subject matter covered by the claims at issue in this Appeal.

Based on the foregoing, Appellant submits that the rejections of claims 28-37 and 50 under § 103(a) are improper and must be overturned.

IX. Conclusion

For the reasons set forth above, Appellant requests the rejection of the claims on Appeal be reversed and that the application be remanded to the Examiner so that the appealed claims can proceed to allowance.

The Assistant Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. § 1.17 that may be required by this Brief, or to credit any overpayment, to Deposit Account No. **03-1952** referencing attorney docket No. 435712000900.

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[14] See MPEP § 2144.03 citing *In re Ahlert,* 424 F.2d 1088, 1091 (CCPA 1970).

[15] See claim 50 and claim 33 attached.

Dated: December 11, 2001

Respectfully submitted,

By: _____

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Attached: Appendix
(copy of claims involved in this Appeal)

APPENDIX

28. The method of claim 50 wherein said irradiating step is performed by irradiating smooth muscle tissue in an asthmatic lung.

29. The method of Claim 28, wherein said irradiating step is performed by emitting a light energy having a wavelength of about 240 nm to about 280 nm.

30. The method of Claim 28, wherein said irradiating step is performed by emitting light energy having a wavelength in the red visible range.

31. The method of Claim 28, wherein said irradiating step is performed by exposing the walls to radiation emitted by a radioactive pellet.

32. The method of Claim 28, wherein said irradiating step is performed by moving an energy delivery device along the airway.

33. A method for treating a lung comprising the step of irradiating the walls of an airway with a wavelength and intensity sufficient to cause debulking over time in mucus gland cells and preventing the mucus gland cells from replicating.

34. The method of Claim 33, wherein said irradiating step is performed by emitting a light energy having a wavelength of about 240 nm to about 280 nm.

35. The method of Claim 33, wherein said irradiating step is performed by emitting light energy having a wavelength in the red visible range.

36. The method of Claim 33, wherein said irradiating step is performed by exposing the walls to radiation emitted by a radioactive pellet.

37. The method of Claim 33, wherein said irradiating step is performed by moving an energy delivery device along the airway.

50. A method of treating a lung to affect lung tissue comprising:

irradiating the walls of an airway of the lung with a wavelength and intensity which, over time, causes debulking of the lung tissue and prevents the lung tissue from replicating.